

Chapter A

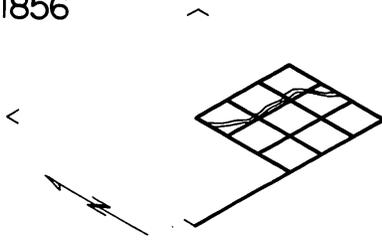
Line Tree Based Proportionment, Oregon

A3

LINE TREE BASED PROPORTIONMENT, OREGON

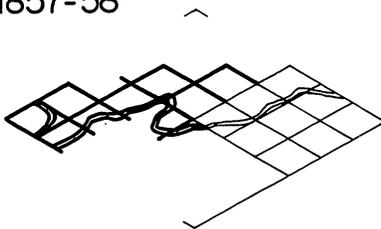
History of Surveys 1881

1856



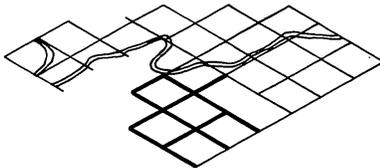
1856 Dennis Hathorn surveyed the south boundary, the south three miles of the east boundary, the subdivisional lines of the SE 1/4 of the township and meandered the Umpqua River thru sections 22 to 25.

1857-58



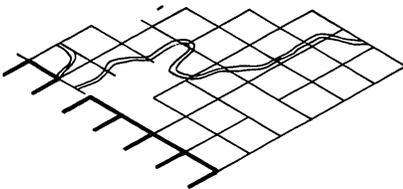
1857-58 Dennis Hathorn surveyed the west two miles of the north boundary, the west boundary of section 6 and the north 58.95 chains of the west boundary of section 7, setting a witness point 4.34 chains south of the Umpqua River at the terminus of his line. Hathorn then surveyed a portion of the subdivisional lines in the northwest portion of the township and completed the meanders of the Umpqua River. Certain "outlying" areas were protracted on the Hathorn plat, approved April 24, 1858. See figure 1.

1874



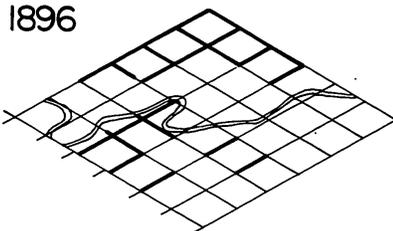
1874 William H. Byars surveyed the south 2 miles of the west boundary and a portion of the subdivisional lines in the southwesterly portion of the township. The pertinent portion of the Byars plat, approved August 2 1875, is shown in figure 2. Byars marked line tress between sections 29 and 30, 20 and 29 and between sections 19 and 20.

1881



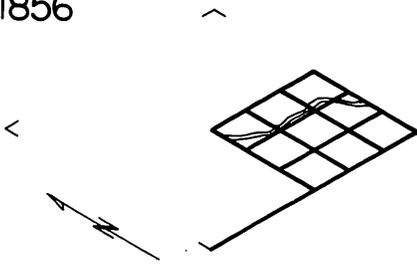
1881 Addison R. and Samuel C. Flint subdivided portions of T. 25 S., R. 8 W., including the entire first tier of sections. The Flints surveyed the east boundary of sections 13 and 24, returning each mile as 80.00 chains in length. They retraced the Byars survey between sections 25 and 30, 31 and 36, returning the line between sections 25 and 30 as North, 81.20 chains. They retraced the Hathorn line between sections 1 and 6, returning a length of 80.00 chains. The subdivisional lines were all run "random and true."

1896



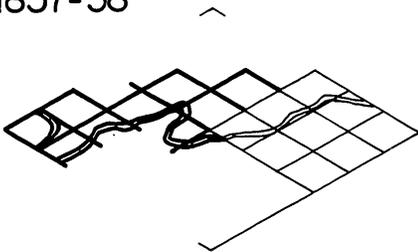
1896 William P. Heydon completed the subdivisional lines of T. 25 S., R. 7 W. Heydon began at the Hathorn corner of sections 9, 10, 15 and 16 and ran a sectional correction line due west, setting corners at 40 and 80 chain intervals. He intersected the west boundary at a point 10.00 chains south of the Flint corner of sections 12 and 13 where he set a closing corner for sections 7 and 18. Heydon then ran north between sections 8 and 9, intersecting a witness point set by Hathorn at 13.00 chains.

1856



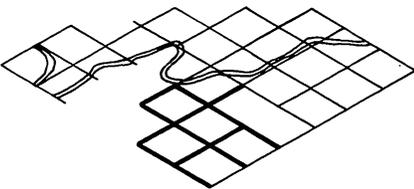
After that he ran north between sections 16 and 17, intersecting his sectional correction line at 80.00 chains, 2.86 chains west of his corner of sections 8 and 9 and set a closing corner. Heydon then ran south between sections 7 and 8 from the Hathorn witness point, intersecting the sectional correction line at 26.70 chains, 1.06 chains west of his corner of sections 7 and 8, and set a closing corner. Heydon then ran north between sections 17 and 18, intersecting his closing corner of sections 7 and 8 at 79.50 chains. Next Heydon ran N. 89° 26' W., between sections 18 and 19, making it parallel to Byars' line between sections 19 and 30. His line intersected the west boundary at 79.40 chains, 12.76 chains south of Flint's corner of sections 13 and 24, where he set a closing corner. Lastly Heydon retraced the east boundary of section 13 and found the line to be N. 0° 50' E., 75.80 chains in length and 78.60 chains between his closing corners. He reports destroying the bearing tress at his (first) corner of sections 7, 8, 17 and 18, but does not make any mention of any corrections to his 1/4 corner between sections 7 and 18. The pertinent portion of the Heydon plat, approved November 20, 1897, is shown in figure 3.

1857-58



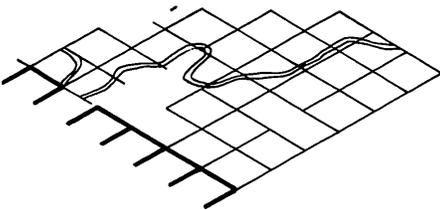
The portion of the west boundary from Flint's corner of sections 12 and 13, northerly to Hathorn's witness point between sections 7 and 12 was never reported to be surveyed.

1874

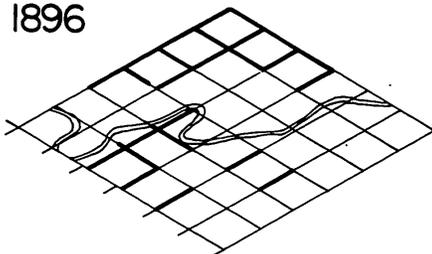


A composite sketch of the pertinent record of these surveys is shown in figure 4.

1881



1896



Addenda to Township No. 25 South Range No. 7 West Willamette

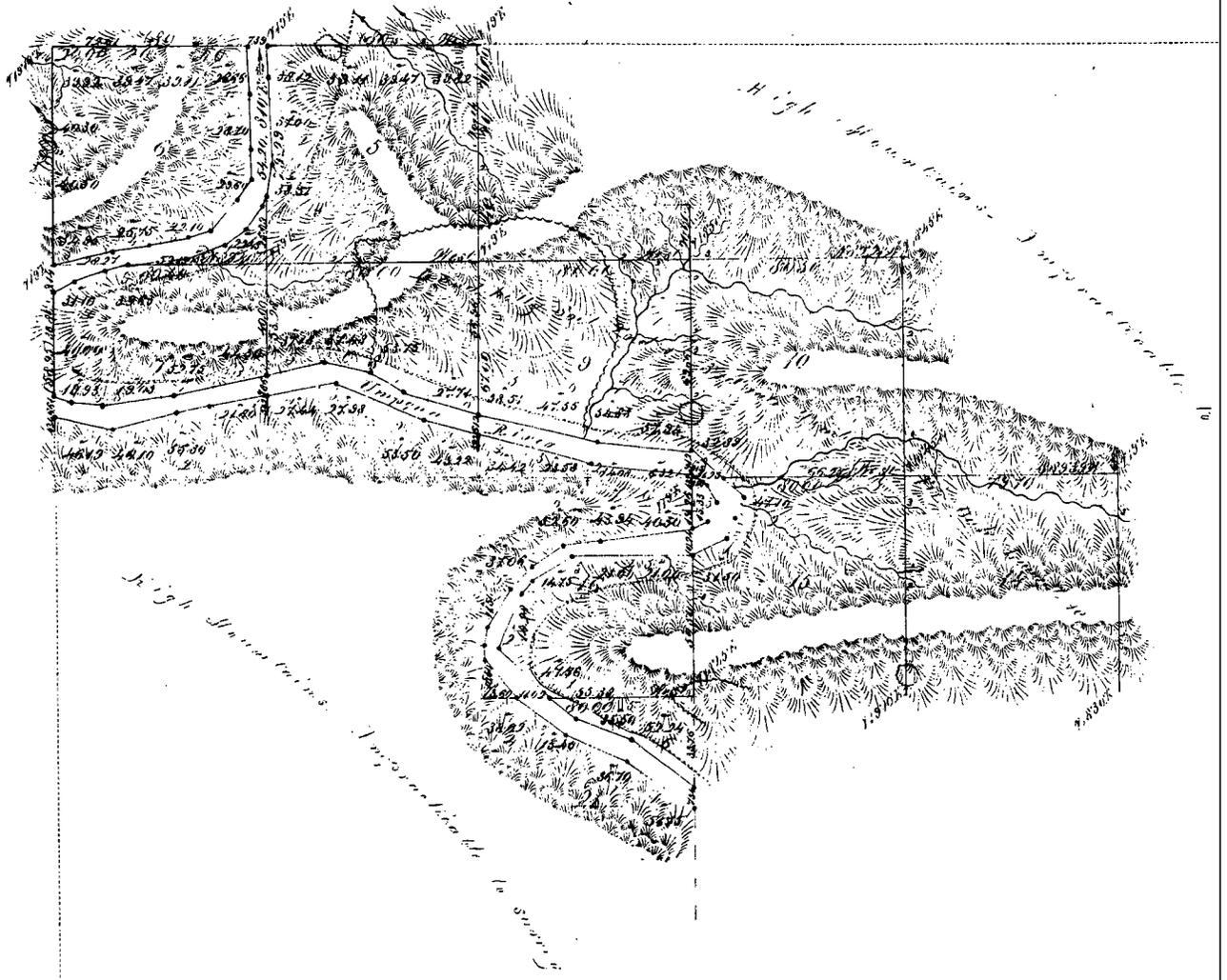


Figure 1 - Portion of Hathorn Plat, 1858

Reasons for Request of this Survey

The lands in T. 25 S., Rs. 7 and 8 W., are intermingled patented and O. and C. lands under BLM administration. In the early 1950's, the "Hubbard Creek Fire" burned through the area destroying much survey evidence. The Roseburg District Manager requested a resurvey to identify and/or restore the property boundaries.

Special Instructions

On August 13, 1964, Special Instructions were prepared for Group 563, Oregon. They provided for the requested dependent resurveys. The field work in this discussion was assigned on August 14, 1964 and commenced August 20, 1964, and was limited to the resurvey of the north 5 miles of the west boundary, the boundaries of section 19 and the line between sections 7 and 18. All 1/16 section corners required to define the government lands were to be established on resurveyed lines.

Conditions Found on the Ground

Figure 5 illustrates the recovered corners of the original surveys and an original tree marked by Byars between sections 19 and 20. The land status and retracement data are indicated.

Preliminary Statement of the Problem

The surveyor must restore the lost corners by proportionate measurement methods and establish the necessary 1/16 section corners.

Regulations

This survey illustrates the application of the following sections of the Manual of Surveying Instructions, 1973:

3-8, 3-89, and 3-92	Subdivision of sections
5-15 and 5-18	Line trees
5-25 to 5-28	Double proportionate measurement
5-30 to 5-34	Single proportionate measurement
5-41	Closing corners

Legal Constraints

The provisions of 43 USC sections 752 and 753 are applicable.

Final Statement of the Problem

The surveyor must restore the lost corners and establish the necessary 1/4 section and 1/16 section corners in a manner that will protect the rights of the patentees.

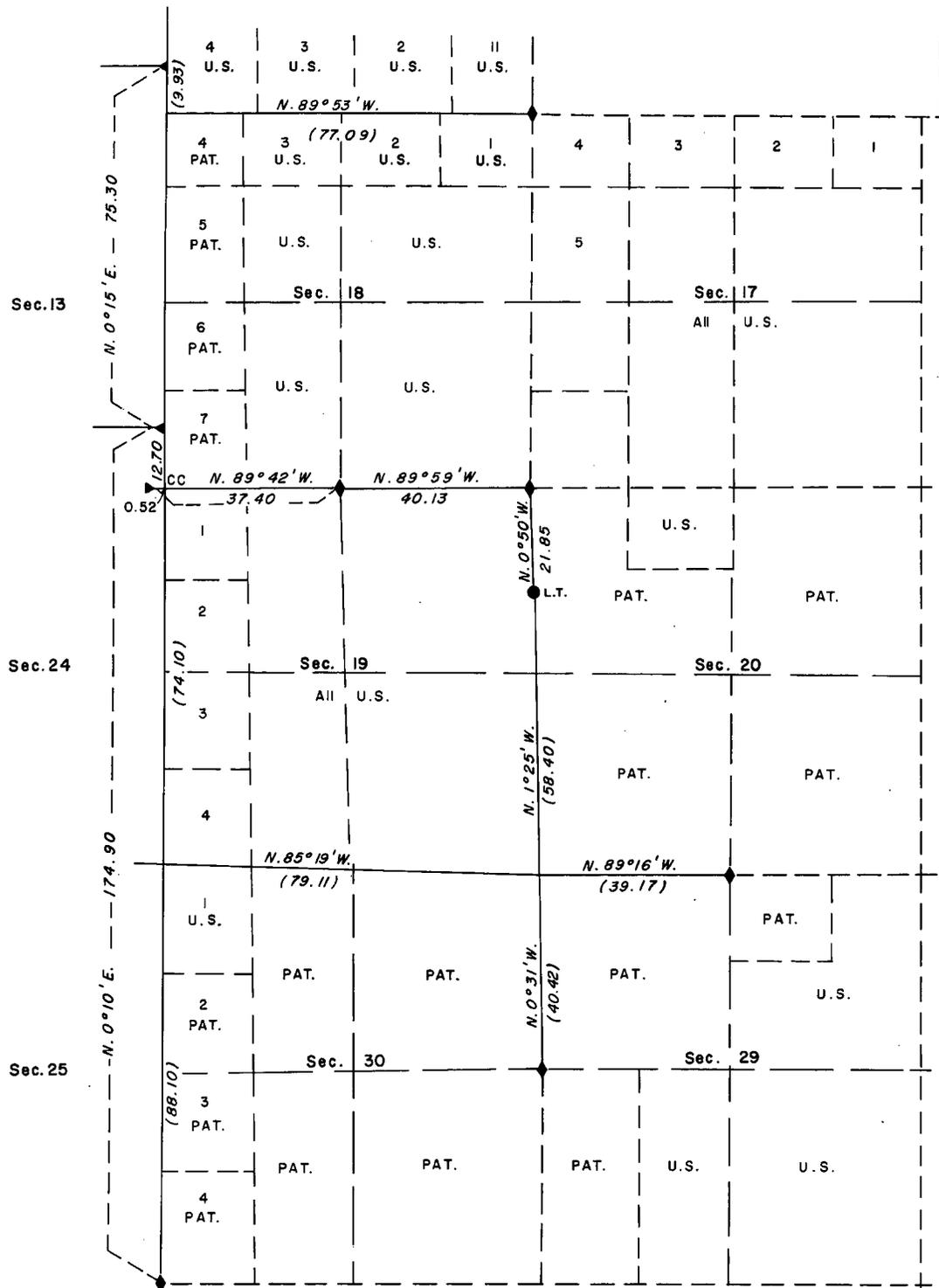


Figure 5 - Recovery Data and Status

◆ ← = Found original corner

● = Found line tree

Solution

Figure 6 is the plat accepted April 28, 1966, which demonstrates the solution.

The missing corners on the range line were restored by single proportionate measurement between found control corners. The closing corner of sections 7 and 18 was established at single proportionate measurement position on the range line. The line between sections 18 and 19 was terminated at the true point of intersection. The west 1/4 corner of section 18 was established at proportionate position based on the plat.

The corner of sections 19, 20, 29, and 30 was double proportioned between the identified line tree between sections 19 and 20, the 1/4 corner of sections 29 and 30, the 1/4 corner of sections 20 and 29 and the restored corner of sections 19, 24, 25, and 30.

The 1/4 section corners of sections 19 and 20, 19 and 30 and west 1/16 section corner of sections 19 and 30 were single proportioned.

The north 1/16 section corner of sections 19 and 20 was established at midpoint in latitude between the restored 1/4 section corner and recovered corner of sections 17, 18, 19 and 20, on line between the line tree and section corner.

The west 1/16 section corner of sections 18 and 19 was established at proportionate position between the 1/4 section corner and recovered original closing corner monument, which was found 0.52 chains (west) off line. The true point of intersection was monumented.

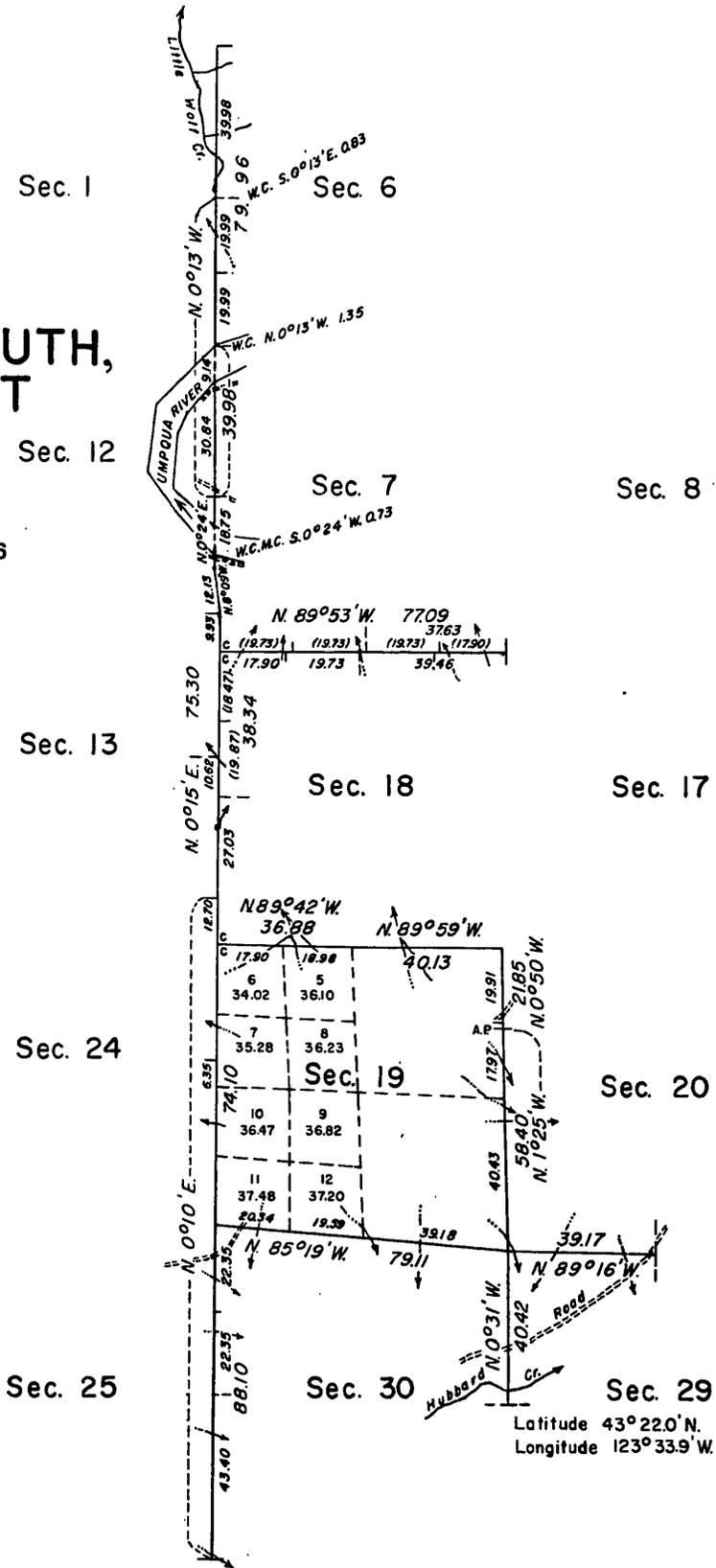
The Hathorn and Heydon plats (figures 1 and 3) depict the west 1/16 section corner and 1/4 section corner on the south boundary of section 7 as being 20 chains and 40 chains east of the southwest corner of section 7.

The Heydon plat (figure 3) depicts the 1/4 section corner and west 1/16 section corner on the north boundary of section 18 as being 40 and 60 to chains west of the corner of sections 7, 8, 17 and of 18. These distances are verified by the areas of the lots in sections 7 and 18.

Heydon had set a "1/4 corner" 40 chains west of his "original" corner of sections 7, 8, 17 and 18 (which he later destroyed.) His final corner of sections 7, 8, 17 and 18 was 1.06 chains west of the destroyed corner. Heydon's 1/4 corner" of sections 7 and 18 would not be a 1/4 corner of either section had it been recovered. The south 1/4 corner of section 7, north 1/4 corner and west 1/16 corner of section 18 were single proportioned based on the platted record distance of 78.15 chains.

TOWNSHIP 25 SOUTH, RANGE 7 WEST

Figure 6 - Plat Accepted April 28, 1966



Supplementary Topic

Establishment of Minor Subdivisions

Title 43 USC 752 states the statutory law on establishment of minor subdivisions:

§ 752@ Boundaries and contents of public lands; how ascertained

The boundaries and contents of the several sections, half-sections, and quarter-sections of the public lands shall be ascertained in conformity with the following principles:

First. All the corners marked in the surveys, returned by the Secretary of the Interior or such agency as he may designate, shall be established as the proper corners of sections, or subdivisions of sections, which they were intended to designate; and the corners of half and quarter sections, NOT MARKED ON THE SURVEYS, shall be placed as nearly as possible equidistant from two corners which stand on the same line. (Emphasis added.)

Second. The boundary lines, actually run and marked in the surveys returned by the Secretary of the Interior or such agency as he may designate, shall be established as the proper boundary lines of the sections, or subdivisions, for which they were intended, and the length of such lines, as returned, shall be held and considered as the true length thereof. And the boundary lines which have not been actually run and marked shall be ascertained, by running straight lines from the established corners to the opposite corresponding corners; but in those portions of the fractional townships where no such opposite corresponding corners have been or can be fixed, the boundary lines shall be ascertained by running from the established corners due north and south or east and west lines, as the case may be, to the watercourse, Indian boundary line, or other external boundary of such fractional township.

Third. Each section or subdivision of section, the contents thereof have been returned by the Secretary of the Interior or such agency as he may designate, shall be held and considered as containing the exact quantity expressed in such return; and the half sections and quarter sections, the contents whereof shall have been thus returned, shall be held and considered as containing the one-half or the one-fourth part, respectively, of the returned contents of the sections of which they may make part.

On November 1, 1879, the Commissioner of the General Land Office issued a circular pertaining to the subdivision of sections and re-establishment of lost corners which stated in part:

"In the subdivision of quarter-sections the quarter-quarter corners are to be placed at points equidistant between the section and quarter-section corners and between the quarter corners and common center of the section, except on the last half mile of the lines closing on the north or west boundaries of a township, where they should be placed at twenty chains, proportionate measurement, to the north or west of the quarter-section corner."

The circular dated March 13, 1883 (L.D. 671) states in part:

"3d. That quarter quarter corners not established by the government surveyors must be planted equidistant and on line between the quarter section and section corner." (Emphasis added)

5. Re-establishment of interior section corners ---- sight trees described in the field notes, together with the recorded distances to the same, when fully identified, will, it has been held, govern the line itself, even when not in a direct or straight line between established corners, which line is then necessarily a broken line by passing through said sight trees. Such trees, when in existence and properly identified beyond a question of doubt, will very materially assist in evidencing the correct relocation of a missing corner." (Emphasis added)

These statements regarding the use of sight (line) trees and the establishment of sixteenth section corners, are repeated with minor variations in the circulars of October 16, 1896 (23 L.D. 361) and June 1, 1909 (38 L.D. 1). The circular titled "Restoration of Lost or Obliterated Corners and Subdivision of Sections," 1963 edition, on pages 6 and 27 as well as the

Manual of Surveying Instructions, 1973, sections 3-89 and 7-12 state that sixteenth corners, when established, will be established at midpoint positions except on the last half mile closing on township lines.

It has been repeatedly ruled in Federal and State court decisions that a positively identified sight (line) tree marks the line of a survey and must be used to RESTORE a lost CORNER. That matter is now well settled.

There are no Federal or State judicial decisions on the use of line trees in the establishment of sixteenth section corners.

There are many state court rulings on interpretations of 43 USC 752 which bear on the subject of the establishment of these corners, generally. In *Westphal v. Schultz*, 4 NW 136 (1880) the Wisconsin Supreme Court observed, "The section corner posts and the quarter posts were in existence by which the survey was made, but no eight or sixteenth corner posts were ever established, and these corners are therefore found and located by the resurvey as above." The court concluded: "The authorities cited by the learned counsel of the appellant, which require section corner posts and quarter posts, and other monuments fixed by the original survey, to be consulted in all resurveys, and which make such monuments govern, are inapplicable, because here no eighth or sixteenth corners were established by the original survey, and have been found and fixed by this resurvey, according to the rule, FROM the section corner posts and quarter posts which were found in existence as set by the original survey."

In *Caylor v. Luzadder*, 36 NE. 909 (1894) the Indiana Supreme Court stated: "The surveyor general was not required to and did not locate the half quarter posts or line ... " That court went on to uphold a proportionate position for a north one-sixteenth section corner between sections 1 and 2, and upholding the instructions issued by the Commissioner of the General Land Office.

Both *Westphal v. Schultz* and *Caylor v. Luzadder* were favorably cited and used as a basis for the decision by the Arkansas Supreme Court in *Tolson v. Southwestern Improvement Association*, 133 SW. 603 (1911).

In *Overton v. Leonard*, 192 P. 221 (1920) the Oklahoma Supreme Court ruled that the quarter section corner and sixteenth section corners on the north boundary of a section 4, (a Standard Parallel) had not been established in the original survey and when established had to be placed at equidistant positions between the closing section corners which had been established. The county surveyor had attempted to place those corners in proportionate positions based on meander corners set during the original survey of the Standard Parallel. That ruling was based entirely upon the court's interpretation of R.S. 2396 and R.S. 2397, (now 43 U.S.C. 752 and 753) and the 1909 circular, 38 L.D. 1.

Recent surveys to establish minor subdivisions have encountered line trees, witness points and witness corners set by the original surveyor. The question arose regarding establishment of the 1/16 corner near such intermediate point which was discovered not at record distance.

In response to an inquiry regarding the establishment of a sixteenth section corner, the B.L.M. Washington Office held the opposite viewpoint in the following memorandum:

October 20, 1953

Memorandum

To: Mr. Swanholm, Regional Chief, Division of
Cadastral Surveying, Region II

From: Chief, Division of Cadastral Engineering

Subject: Adoption of line trees

Reference is made to your informal memorandum of October 2 regarding the control to be exercised by line trees in the restoration of corners and boundaries of the public land surveys.

I am unable to cite a reference in the land decisions or official letters on this point, but authorities appear to be in agreement that line trees which are recorded in the field notes of the official surveys and which can be identified with certainty, exercise full control for course and distance.

In this connection it should be realized that the act of February 11, 1805 (R.S. 2396; 43 U.S.C. sec. 752), provides that the boundary lines actually run and marked in the surveys shall be established as the true boundaries of the sections or subdivisions for which they were intended. In the light of the law, I agree fully with the statement in Clark's Treatise on "The Law of Surveying and Boundaries," sec. 421, that an accurately established line tree is a permanent monument of the first order, and, consequently, shows the true location of the line.

The importance to be attached to line trees was apparently realized by the courts as early as 1822. In that year, Chief Justice Marshall delivered the opinion of the Supreme Court in the case of *Newsom v. Pryor's Lessee*, 7 Wheat. 7 (20 U.S.), in part as follows:

A call for a natural object, as a river, known stream, a spring or even a marked tree, shall control both course and distance."

Later, in the case of *Ayers v. Watson* (137 U.S. 584), the Supreme Court again affirmed the importance of line trees. This decision is cited by Clark several times as though it were considered a ruling case on the subject. In that decision, at pages 597 and 598, the charge by the lower court to the jury is quoted, in part as follows:

"Your duty is to follow the tracks of the surveyor so far as we can discover them on the ground with reasonable certainty, and where he cannot be tracked on the ground, we have to follow the course and distance he gives, so far as not in conflict with the tracks we can find that he made; and you will constantly bear in mind, in considering the proof in this case, that in fixing the boundaries of a grant the rule requires that courses shall control distance as given in the calls of the field notes of a survey and that marked trees, designating a corner or a line on the ground, shall control both course and distance."

In commenting on the charge to the jury, the Supreme court said:

"In our judgment this charge was justified by the testimony in the case and, on the whole, gave a correct view of the questions to be solved. The general rules laid down at the commencement are undoubtedly sound."

And, later in the decision, at page 601, the court said:

"Marked trees, designating a corner or a line on the ground, should control both courses and distances."

These decisions appear to attach even greater weight to line trees than is provided in section 357 of our Manual. Evidently, the courts consider a recorded and identified line tree to have equal weight with a corner monument.

If in your reading on the subject you come across other decisions bearing on this point, we would appreciate hearing about them.

(sgd.) Earl G. Harrington

Chief, Division of
Cadastral Engineering



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

DEC 1974

IN REPLY REFER TO:

9182 (420)
Group 263,
Washington

December 23, 1974

Memorandum

To: Chief, Western Field Office (D-131)

From: Acting Chief, Division of Cadastral Survey

Subject: Use of Witness Corners, Meander Corners, etc., in Establishing Corners of Minor Subdivisions

This is in reply to your memorandum of December 2 to me concerning survey procedure involving witness corners in T. 6 N., R. 13 E., Willamette Meridian, Washington.

A dependent resurvey is a retracement and reestablishment of the lines of the original survey in their original location. It is not to reestablish it where an accurate survey would place it. Our problem here is to establish the south sixteenth corner of sec. 3 and 4 where the original surveyor would have placed it.

All Manuals, from 1930 on, have required that errors in the original survey be placed where they occur and that these errors will not affect measurements beyond identified corners. (Sec. 363, 1930 Manual; Sec. 363, 1947 Manual; Sec. 5-23, 1973 Manual). These same Manuals, as well as the circular "Restoration of Lost or Obliterated Corners" leave no doubt that all corners set in the course of the original survey have equal weight in the restoration of lost corners. This is further amplified in the memorandum dated October 20, 1953, from Earl G. Harrington, Chief, Division of Engineering, to Carl Swanholm, Chief, Division of Cadastral Engineering, Region II. (Copy attached).

There is no doubt that the original surveyor made a two chain error in measurement to the north "witness corner." Since we do not know exactly where the error was made within that segment, the most equitable and legally sound solution is to proportion between the section corner and the north "witness corner."

There should be no question of going beyond the nearest identified corners. The fact that the south sixteenth corner is not at midpoint between the section corner and the quarter section corner is of no more consequence than if the quarter corner were not at midpoint between the section corners.

Enclosure



Roger Barron

Save Energy and You Serve America!